

REMARKS

Claims 10-11, 16 and 18 were rejected under § 102(b) as anticipated by Harvey III U.S. Patent 5,686,360.

Claims 12, 17, 19-20 and 33 were rejected under § 103(a) over Harvey as applied to claim 1, in combination with the Examiner's assertions that selection of the optimum or workable ranges involve only routine skill in the art (claims 12 and 20), and selection of known materials on the basis of their suitability for the intended use is within the general skill of the art (claims 17, 19 and 33).

Claims 21-22 were rejected under § 103(a) over Harvey III as applied to claim 1, and further in view of Hung U.S. Patent 5,776,622.

In response to Applicant's arguments filed August 11, 2003, the Examiner refers to Applicant's assertion that Harvey does not teach the gettering layer being adjacent the outermost electrode layer. The Examiner however disagrees because the meaning of adjacent (see Webster's Dictionary) is "close proximity" and does not necessarily mean "on top of."

Applicant has amended the sole independent claim, claim 10, to recite a SiO layer being "on the surface" of the outermost electrode layer. This amendment is supported by the specification at page 7, referring to Fig. 7, which shows SiO layer 24 on the surface of the outermost electrode layer 14. Further amendments to claim 10 are described below.

Applicants submit herewith amendments to the claims directed to an embodiment of the invention set forth on page 7 of the specification, and illustrated in Fig. 7. For the convenience of the Examiner, a marked-up copy of Fig. 7 is attached showing one

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implementation consistent with the subject matter of amended claim 10 (e.g., with two cathode layers and examples of specific layer materials).

Amended claim 10 relates to structures for protecting electrodes (e.g., 14 and 10) on a side of a light-emissive organic material (6) remote from a substrate (2). With reference to the description of the seventh embodiment on page 7 of the specification, it has been found that the combination of a silicon-oxide (SiO) layer (24) with an overlying inert barrier layer (26) provides excellent protection for a remote electrode (e.g., 10 and 14). Without being bound to any specific mechanism, the inventors' believe this protection is due to the action of the SiO as a gettering layer. SiO layers were not known as gettering layers for such electrodes, and it is Applicant's position that it therefore would not have been obvious to use a stack of a SiO layer (24) and an overlying inert barrier layer (26) to protect such electrodes (e.g., 10 and 14).

The references cited by the Examiner, U.S. Patent 5,686,360 to Harvey III and U.S. Patent 5,776,622 to Hung, fail to teach or suggest this combination. The primary reference, Harvey III, is described on pages 9-11 of Applicant's prior response. In summary, Harvey describes an array 12 of pixels of organic light-emitting devices (LEDs) positioned on substrate 11, with a multilayer overcoating 16 positioned between plastic substrate layer 11 and array 12 in order to protect the array from the permeation of oxygen and water vapor which is inherent to plastic (column 4, lines 23-24).

Harvey further describes how array 12 is overcoated with a hermetic sealing system 12 including a buffer layer 24 which may have a low dielectric constant and low permeability to oxygen and moisture (column 5, lines 24-41). In addition to buffer layer 24, there is a thermal coefficient matching layer 26 and a low permeability inorganic layer 28 (column 5, lines 53-58).

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In another embodiment relied on by the Examiner, a low work function metal, such as lithium or magnesium, is utilized as the thermal coefficient matching layer 26 and further acts as a gettering material to absorb trapped gases and the like within the inorganic layer 28 (column 5, lines 61-65).

Thus, Harvey III is directed to providing a buffering layer having a close match of thermal expansion coefficient. It fails to teach or suggest a silicon oxide layer as a gettering layer on the surface of the outermost electrode layer. It fails to teach or suggest a stack of a silicon oxide layer and an overlying inert barrier layer to protect such remote electrodes.

Hung fails to cure the deficiencies of Harvey III. Hung was cited against dependent claims 21-22, which more specifically recite the layers of the first and second electrodes. Hung does not teach or suggest a stack of a silicon oxide layer and an overlying inert barrier layer to protect such electrodes.

Thus, Applicant respectfully asserts that the present claims patentably distinguish over the cited references. Reconsideration and allowance of the present claims is respectfully requested.

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